

AMENDMENTS TO THE DRAWINGS:

Figures 3 and 4 have been amended to include the legend "Prior Art" to indicate that these figures represent prior art. Two (2) Replacement Drawing Sheets are attached.



REMARKS

I. Introduction

In response to the January 31, 2007 Office Action, Applicants have amended Figs 3 and 4 to indicate that the figures represent prior art. No new matter has been added.

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art references.

II. The Rejection Of Claims 1 And 6 Under 35 U.S.C. § 112

Claims 1 and 6 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. It is alleged that it is unclear how a “plurality of steps” can be present in the instant invention when there is only one edge that would contain a step, such as illustrated in Fig. 1. Applicants respectfully submit that there are, in fact, more than one edge that contains a step. For example, in Fig. 1, there is a step portion at the end of the separator 9 and step portions on either side of the positive electrode lead 1c. These step portions comprise a “plurality of steps” as recited in claims 1 and 6. As such, Applicants respectfully request that the § 112 rejection of claims 1 and 6 be withdrawn.

III. The Objection Of Claim 7

Claim 7 was objected to as being a substantial duplicate of claim 5. However, claim 5 is directed to an electrode group, whereas claim 7 is directed to a non-aqueous electrolyte secondary battery. Accordingly, as the two claims are clearly distinct from each other, Applicants respectfully request that the objection of claim 7 be withdrawn.

IV. The Rejection Of Claims 1 And 5-7 Under 35 U.S.C. § 103

Claims 1 and 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants Admitted Prior Art (“AAPA”) in view of Anzai (JP 11-273739). Applicants respectfully traverse these rejections for at least the following reasons.

With regard to the present invention, previously amended claims 1 and 6 both recite, in-part, an electrode group for a secondary battery wherein ... a lengthwise end of a separator lies inside along the winding direction from a lead, and a plurality of step portions, at least one of the step portions having difference in level formed in the electrode group by lengthwise ends of the current collector part serving as the outermost turn and the separator, respectively, are covered with an insulating member from an inner side of the electrode group.

In contrast to the present invention, both the AAPA and Anzai fail to disclose that a plurality of step portions, at least one of said step portions having difference in level formed in said electrode group by lengthwise ends of said current collector part serving as the outermost turn and said separator, respectively, are covered with an insulating member from an inner side of said electrode group. As is shown in Fig. 3 of the figures, the prior art does not disclose an insulating member covering the step portions.

Anzai teaches an ionic insulator arranged on the innermost or outermost circumferential side at the end of the positive electrode. From this, it is alleged that it “would be obvious to include an ionic insulator in the AAPA as taught by Anzai in order to prevent short circuiting”. However, Anzai fails to teach that the insulator is located on the inner side of the electrode group between the current collector and the separator. In contrast to the present invention, Anzai explicitly states in the Abstract that the ionic insulators 19 and 20 are arranged *between the*

positive mixture layer 18 and the negative mixture layer so as to correspond to the thin part of the positive mixture layer 18 on the outermost circumferential end side and/or the innermost circumferential end side of the positive electrode 18. Based upon this description, it appears as if the ionic insulators disclosed in Anzai are describing what in the present invention is the separator 9, which is indeed in between the negative and positive mixture layers 1 and 2 (see Fig. 3 of the present invention). However, Anzai does not appear to disclose a layer that is equivalent to the insulating member 5 of the present invention. As such, the invention of Anzai will not prevent short circuits in the manner that the present invention does.

In fact, the specification of the present invention specifically describes the problems with a battery as disclosed in the Anzai reference on page 3, lines 3-18. It states that “the technique of arranging an ionic insulator between an end of the positive electrode material mixture layer and the negative electrode material mixture layer opposing thereto...is intended to control the charge reaction itself involving the intercalation-deintercalation of lithium ions by the ionic insulator to inhibit the positive electrode potential from locally increasing and prevent the internal short circuit. However, according to this technique, an internal short circuit...cannot be prevented because the ionic insulator is arranged between the positive and negative electrode material mixture layers. Further, since the ionic insulator directly covers the positive or negative electrode material mixture layer, the electrode reaction is inhibited and the capacity decreases.” Thus, Anzai fails to solve the problem that the present invention is designed to remedy.

The configuration of the insulator in the present invention prevents the above mentioned problem. As can be seen in Fig. 1 of the present invention, the insulating member 5 is located on the inner side of the electrode group on the outermost turn of the winding. Thus, the insulator is located between the current collector and the separator and not between the positive and negative

material mixture layers. The significance of this difference is that the embodiments of the present invention can prevent unequal thickness, or level, of the electrode group resulting in short circuits, whereas Anzai does not.

As is well known, in order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA1974). As the AAPA and Anzai, at a minimum, fail to describe an electrode group for a secondary battery wherein at least one of said step portions having difference in level formed in said electrode group by lengthwise ends of said electrode serving as the outermost turn and said separator, respectively, are covered with an insulating member from an inner side of said electrode group, it is submitted that the AAPA, alone or in combination with Anzai, does not render claims 1 and 6 obvious. Accordingly, it is respectfully requested that the § 103 rejection of claims 1 and 6 be withdrawn.

V. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1 and 6 are patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

VI. Conclusion

Having responded to all open issues set forth in the Office Action, it is respectfully submitted that all claims are in condition for allowance.

Application No.: 10/664,879

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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